DOCUMENT RESUME

ED 232 444 FL 013 817

AUTHOR Amastae, Jon
TITLE Learner Continuums and Speech Communities.
INSTITUTION Linguistic Research, Inc., Edmonton (Alberta).
PUB DATE 81
NOTE 43p.
PUB TYPE Reports - Research/Technical (143) -- Journal Articles (080)
JOURNAL CIT Papers in Linguistics: International Journal of Human Communication; v14 n2 p155-196 1981

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Bilingualism; Consonants; English; *Evaluation Methods; *Language Variation; *Sociolinguistics; Spanish
IDENTIFIERS *Speech Community; Texas

ABSTRACT

A method for analyzing acquisition-like patterns in the English consonants used by Spanish-English bilinguals is presented which allows a distinction to be made between individual and group phenomena. An analysis of a bilingual community in southern Texas shows that there is a continuum of use of the standard English consonants not occurring in Spanish in both individual and social use. In addition, style shifting of a different type than is usually delineated in sociolinguistic analyses was observed. It is argued that a definition of a speech community must be broad enough to encompass communities like the one analyzed even though many speakers may show a variety of acquisition-like forms, and that different types of varieties and communities may require different analytical techniques. (Author/RW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

Papers in Linguistics: International Journal of Human Communication 14 (2) 1981.

LEARNER CONTINUUMS AND SPEECH COMMUNITIES[1]

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Linguistic Research, Inc

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Jon Amastae
University of Texas at El Paso

ED232444

ABSTRACT

A serious problem for those analyzing the linguistic dimensions of bilingual communities (as all others) is distinguishing individual from social phenomena. In this paper I present a method for analyzing the acquisition-like patterns in the English consonants used by Spanish-English bilinguals. This method is based on work by Bickerton (1973) and Gatbonton-Segalowitz (1975) and allows a clear view of both individual and group. The analysis shows that there is a continuum of use of the standard English consonants not occurring in Spanish in both individual and social use. It also shows style shifting of a rather different sort than that usually delineated in sociolinguistic analyses. In addition, I argue 1) that a definition of speech community must be broad enough to encompass communities such as the one discussed, even though many speakers may show a variety of acquisition-like forms; 2) that different sorts of varieties and communities may require different analytical techniques.

FL013617

0. In the linguistic analysis of bilingual communities, one of the languages is often judged to be of more recent acquisition, of restricted function, or secondary importance to the other language. Ma, Herasimchuk, and Fishman[2], for example, in a detailed study of a Puerto Rican Spanish-English bilingual community in the New York area, concluded that these bilinguals did not constitute "a unitary English speech community with its own contextual norms of communication in that language" (Fishman and Herasimchuk 1971:468, repeated in Fishman 1972:73).

Similarly, Sawyer has argued that the English of Mexican-Americans in the Southwest cannot be called a dialect, but merely "an imperfect state in the mastery of English" (1970:19).[3]

© Linguistic Research Inc. 1981

Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

31 - 1251/21/02 158 -196

For both MHF and Sawyer, a crucial factor seems to be that the speakers under consideration appeared to be of limited competence in English, either from limited length of time in the United States, or through living in the sort of bilingual community in which interaction with English monolinguals is relatively infrequent, unnecessary, or both. MHF wrote that "the English speaking horizons and experiences are still too limited for contextual varieties to have been developed (or to have been adapted) and to have stabilized" (Fishman and Herasimchuk 1971:468).

Another common factor is the assumptions underlying both analyses. MHF and Sawyer both take the standard to be used for measuring the bilinguals' competence in English to be the English spoken by monolinguals in the immediate area. Thus, MHF selected for analysis only those features which had previously been shown to have stylistic (or contextual) significance in the local monolingual English (I return to the matter of contextual variation below). Sawyer is worth quoting, for her more extreme statement on this.

> The phonology of standard Southern English as spoken by the Anglo informants of San Antonio was the dialect of English used in judging the skill of the Latin informants since it seems reasonable to assume that the model they were striving to attain was not Northern or New England speech, or even 'General American', but simply that variety of American English found in the community into which they were striving to integrate. Therefore, in making the analysis of the bilinguals' achievement, we did not consider them to be skilled if they used [$_{a}U$] in COW, even if these phones happened to be found in this word in many varieties of American English, since the Anglo informants of San Antonio used only [a$\tilde{}$ U] or [a U] in such words. (1973 (1964):29)

3

There are at this point two prime issues. One is the matter of the norms to be used in assessing the competence of bilingual speakers. The second is whether evidence of "limited competence" (cf. below for

more discussion of this term) excludes the language of a group of speakers from consideration as a variety having social import.

A third issue, alluded to above but not yet discussed, is the matter of HOW to analyze sociolinguistic data. Sawyer evidently proceeded sound by sound, judging whether informants had mastered each. MHF, reflecting advances in the field of sociolinguistics, were not testing for simple mastery of individual sounds, but were in fact testing for "sociolinguistic" competence, a much more complicated concept involving speakers' knowledge of the complex sociolinguistic processes governing when to use stylistic variants of certain sounds. Indeed, one reason for their conclusion that Puerto Rican English does not constitute a unitary variety was that the speakers showed "more or less fixed usage of one sound by a given speaker" (Fishman 1972:77).

0.1 In this paper I will discuss these issues with respect to an analysis of language produced by Spanish-English bilinguals in the Lower Rio Grande Valley of South Texas. The community these speakers constitute is in many ways similar to the ones examined by MHF and Sawyer. During the course of my discussion, I will argue that 1) there is no inherent sociolinguistic reason for bilinguals to strive to match their speech to that of the immediately surrounding community; 2) that evidence of limited competence does not necessarily preclude interesting sociolinguistic patterning; 3) that different sorts of speech communities not only may reverse expected patterns of stylistic indications, but may also require different analytical techniques.

1.0 The present investigation was part of a study of the character and degree of bilingualism among the student population of Pan American University. Some 76% of this population is Spanish-English bilingual which closely matches the bilingual proportion of the local population (cf. Amastae 1978, 1978 ms for further discussion of the sociolinguistic background of Pan American students). The informants were all freshmen selected randomly out of a university freshman composition class. All were graduates of area high schools, and all had been speaking English since entering elementary school, at least. All were 17-21 years old. All were competent bilingual speakers, though the

speech of several showed varying degrees of "accentedness," as the following discussion shows. Also, though several were not academically literate (PAU is an open admissions university), all were functionally literate and could participate in all phases of the interview procedure (which differentiates them in some ways from some of MHF's and some of Sawyer's informants).

A term used above, limited competence, is important - and slippery. I intend it here merely as a cover term for a variety of speaker who, in some aspect of language, seems to lack the norms of surrounding speakers. It is of course extremely difficult to distinguish LIMITED competence in an overall sense from DIFFERENT competence, and the task is made much more difficult if the two overlap. But that is precisely my point here. The informants I am discussing had no trouble carrying on a conversation in English with the investigator, who was not known to them prior to the interview. They are included here under the cover rubric of "limited competence" only because their speech showed various features often said to be typical of "Spanish interference," and because of various features of sociolinguistic background. Seven of the nine informants reported Spanish as their first language. Five of the nine reported Spanish as their home language, while three of the nine reported both languages were used in their homes. One of the nine reported using only Spanish on the university campus while four reported using both languages equally, and four reported using mostly, but not totally, English. These figures are consistent with data from a much larger sample (n=679) reported in Amastae 1978, 1978 ms. Data from one of the informants was missing on everything but first language spoken (language used at home, school, etc.) It is clear, therefore, that these speakers were not new learners of English in any sense. Given this obvious fact and difficulty in distinguishing limited from different competence, for the balance of this paper I will use "evidence of acquisition" or "acquisition-like" to describe these speakers and some of the forms they produce (though I realize that these terms, too, are problematic). 5

The aim was to delineate the stylistic dimensions of the English spoken by this population and to make at least some inferences about

the degree to which the speakers had acquired standard English based on the number of styles they exhibited. Therefore the data were collected in a manner similar to that used by MHF, that is, from word list reading, text reading, and conversation on topics calculated to elicit a more casual style of speech.

The interviews were conducted in the investigator's office, which was at the time a converted dormitory supervisor's apartment, using a Sony lapel-clip condenser microphone and Wollensak reel-to-reel recorder at 3 3/4 ips. The informants read the word list and text reading first, with each done twice. Only the second reading of each was transcribed, to eliminate as much as possible the effects of initial nervousness or reading difficulties. While it might be thought that the office setting would have precluded any casual speech, the relatively homelike setting of the particular office evidently was at least partially effective in contributing to a casual atmosphere. As will be seen below, the setting in no way precluded style shifting on the part of the subjects.

1.1 The variants examined were š, č, ð̃, θ, Z, ǰ, Y, word final voiced stops, and final consonant clusters.[4] These were not selected necessarily because they were known to carry stylistic importance in the local monolingual English, but because they are often singled out to mark Spanish speakers as not having total command of English (cf. Sawyer 1970, Stockwell and Bowen 1965, and any of the recently developed language assessment devices used in many schools used to identify students of limited English ability such as the Language Assessment Scales). Since the aim of the investigation was to examine the function of the standard versus the interference variants, and since there are no differences between local South Texas monolingual English speech and midwestern American standard speech, all the variants were categorized as either standard English (1) or "interference" (2). The variants were as follows (cf. Stockwell and Bowen 1965 for a general treatment of interference).

š- The variants were š–1, standard English [š], and š–2 which included both [č] and [tš]. Although š can be repre-

sented by various orthographic symbols (s, c, ti, ch, sh), in the reading samples (both word list and text) only initial and final SH and S were examined. In the conversational portion, all S were examined.

č- The variants were Č–1 standard English [č] and Č–2, including [š͡s], a very weakly aspirated [č] typical of Spanish articulation, and [t͡s]. Although Č is also represented by a variety of orthographic symbols, in the reading portion of the elicitation initial and final CH were emphasized. In the conversational portion of the interview, all C were analyzed.

ð The variants for Ð and θ were [ð] and [θ] as the 1 variant,
θ and [d]-[z], [t]-[s] for the 2 variant. The elicitation reading material included initial, medial, final Ð, θ represented by TH.

z- The variants for Z were Z–1, fully voiced [z], and Z–2, which included fully devoiced [s] as well as a lenis sibilant occurring intervocallically, e.g. re [s]erve. In the reading portion, instances of this variable were orthographic S medially and finally, the latter including inflectional –S following both vowels voiced consonants, and also orthographic Z, medial and final.

ǰ- For this variable, the variants for ǰ–1, fully affricated [ǰ] and ǰ–2, which included - both [y] and [ž]. In the reading portion, both orthographic J and Y were counted, the latter syllable initially.

y- Only syliable initial Y was counted. The variants were coded Y – 1, [y], a palatal glide, and Y – 2, which indicated the common interference variants [ǰ] and [ž].

C- The variants were C–1, a fully voiced, though perhaps unre-
[+vce] leased stop, e.g. [d] or [d˺], and C–2, which included a
d partially devoiced stop [d̥] or a fully devoiced variant, e.g.

[t], released or unreleased. A primary cue for distinguishing [d ˈ] and [d̚] (for example), which can sound very similar, was the preceeding vowel, which is longer before voiced than voiceless stops. This variable included all final voiced stops, including those followed by inflectional –S.

cc- This variable included both monomorphenic and bimorphenic clusters, included not only those clusters which all English speakers simplify, but also those which other English monolinguals tend not to simplify, such as CURB(S). The variants were CC–1 (CC), and CC–2 (CO].

Following the interviews, the tapes were transcribed by the investigator and a colleague, checking each other for accuracy.

1.2 Analysis of the data shows that two of the variables, Z, and CC show stylistic variation of the sort exemplified by MHF. Figure 1 displays the contextual variation for consonant clusters, which are realized in full form most often in Word List reading (formal context) but which are reduced in conversation (casual context). Figure 2 presents the pattern of the variable Z, which is realized most often as [z] in the Word List reading, and is more likely to be realized as [s] (the interference variant) in conversation. However, the stylistic delineation of Z as shown in Fig. 2 is extremely doubtful, insofar as the breaks are not clear between the and B and C contexts, 63.0% Z–1 and 62.89% Z–2 respectively.

Only two of nine variables examined show this sort of stylistic variation. The other seven do not show the pattern illustrated in Fig. 1, where the standard variant is more likely to occur in the formal context. As these data appear to parallel the MHF data in that minority of the variables show this type of stylistic variation, one might be tempted to conclude that these speakers do not constitute a "unitary speech community," and that their English is therefore of interest only for what it may reveal about language acquisition.

There are several reasons for not reaching such a conclusion,

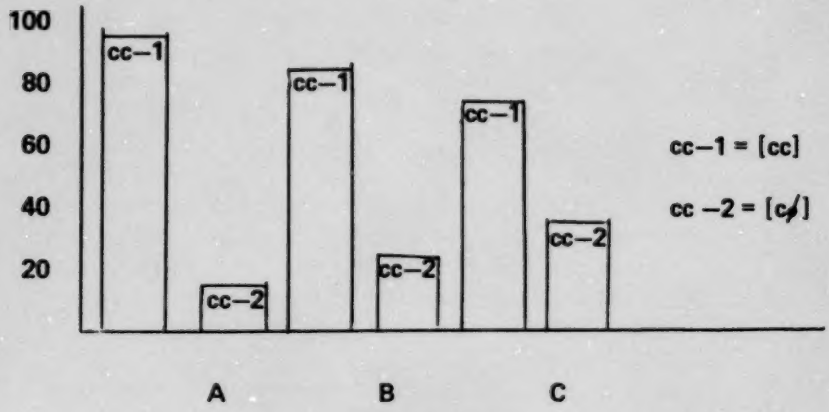

Fig. 1 – Stylistic Variation of CC
where A, B, C are contextual styles ranging from formal (A) to casual (C).

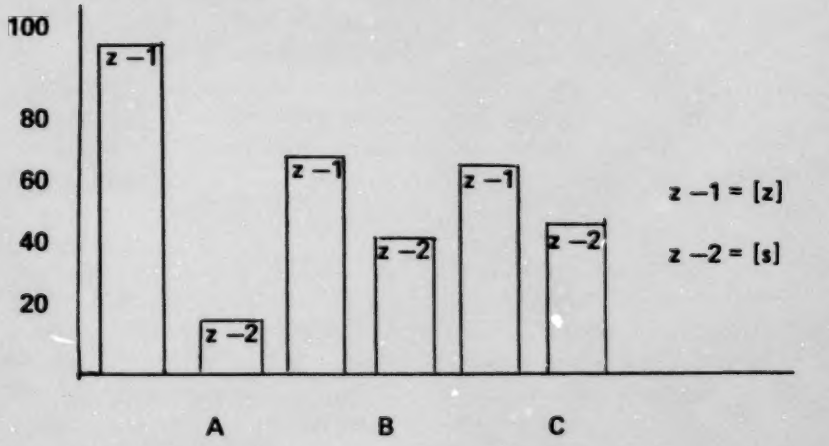

Fig. 2 – Contextual Variation of z
where A, B, C are contextual styles ranging from formal (A) to casual (C).

however. One is the fact that we may simply have investigated the wrong variable. MHF investigated only those variable which had previously been shown to have stylistic or contextual value in the surrounding dialect of the language. The Puerto Rican English speakers investigated could merely have been using other variable to delineate styles. But I believe that there is a more important reason for not disregarding the English of these speakers as being social interest. This reason involved the nature of linguistic variability. Beyond assuming (like Sawyer) that the Puerto Rican English speakers would naturally assimilate to the surrounding community norms, MHF also considered only one model of linguistic variation. Part of my task here will be to demonstrate that other models should also be considered.

2.0 After calculating percentages of occurrence of each variant across the three styles, I then categorized each variable according to complete or imcomplete use of the standard form. The variable were then analyzed used Guttman scales as developed for use in the analysis of linguistic data by DeCamp 1973, Bickerton 1971, 1973, 1975, and Gatbonton-Segalowitz 1975. Guttman scales are used to demonstrate patterns in data whereby one item necessarily implies another. Figure 3a shows the raw data for the implicational array of the data, which shows the pattern Y < a < J < 0 < S < C # < Č < Z:[5] and Figure 3b shows the coded form for easier reference.

In terms of acquisition this model predicts that if a speaker uses standard Č, for example, he also uses standard $\underset{[+vce]}{C}$#, S, θ, J, Ō, and Y, but not necessarily Z. It likewise predicts that a Spanish speaker will continue substituting [s] for [z] after he has mastered the other segments.

Despite the clear continuum, the array in Fig. 3 does contain certain deviations, circled in Fig. 3b. The usual evaluation metric for Guttman scales is the coefficient of reproducibility, which is .97 for Figure 3. Since anything over .9 is normally considered to indicate a valid scaleogram,[6] it appears that Fig. 3 represents a valid pattern in

	y	ð	ǰ	θ	š	C#	č	z
Speaker 7	2/2	13/13	1/2	6/ 7	5/6	6/28	5/ 5	12/26
5	1/1	18/18	3/3	6/ 7	5/6	10/16	4/ 5	19/28
1	3/3	17/17	7/7	6/ 8	5/7	20/21	4/ 5	23/28
9	1/1	23/23	5/5	4/ 4	6/7	11/16	3/ 5	3/20
6	1/1	12/12	2/2	6/ 6	7/7	10/18	3/ 5	4/19
4	1/1	10/10	2/2	10/10	6/6	22/29	3/ 5	9/30
8	3/3	12/12	2/2	6/ 6	1/6	16/16	4/ 5	13/24
3	1/1	8/ 8	2/2	4/ 4	6/6	20/20	4/ 5	19/22
2	5/5	24/24	6/6	6/ 6	7/7	9/ 9	20/20	19/22

Figure 3a
Raw Data For Proportion of Standard To Total Variants
All Contexts

Speaker	y	ð	ǰ	θ	š	C #	č	z
7	2	2	1	1	1	1	(2)	1
5	2	2	2	1	1	1	1	1
1	2	2	2	1	1	1	1	1
9	2	2	2	2	1	1	1	1
6	2	2	2	2	2	1	1	1
4	2	2	2	2	2	1	1	1
8	2	2	2	2	(1)	2	1	1
3	2	2	2	2	2	2	1	1
2	2	2	2	2	2	2	2	1

Figure 3b
where 1 = incomplete use of standard variant
2 = complete use of standard variant

the data. Notice also the nature of the deviations. Of the two, one (lect 8) is a deviation "backwards," that is, it is in a sense a regression to a state of variability. The speaker uses interference AND target elements in one variable, after the next stage, which involves use of target items only, has been reached. This type of deviation is less serious, it seems to me, than the type exhibited by speaker 7, where complete control of variable č is acquired totally out of sequence. Even without this explanation of the deviance, however, the scaleogram is valid as it stands.

Figure 3 is non-contextual, which is to say, based on speakers' total output. Figures 4 a-b, representing data taken only from the reading, or formal context, shows the same continuum of linguistic features, although some of the speakers have changed places slightly. These slight alternations of speakers on the lect continuum do not appear to be significant, (cf. # 3.2 below), and what is important here is that the continuum itself appears unchanged. Of the three deviations in Figure 4b, one is again "backward" deviation, while only two are the more serious deviations involving the acquisition of a segment totally out of sequence. The coeficient of reproducibility for Fibure 4b is .959, well over the threshold for a valid scale.

It is also informative to view the continuum established in Figures 3 and 4 from another view point. Both figures 3 and 4 present actual data. We can, however, match the actual data against an ideal lect matrix which displays in more detail the actual transition from interference to standard target items.[7]

Figure 5 illustrates such an idealized matrix in which we can see the transition from interference items only, through variable use of interference items and target items, and to exclusive use of target items.

The actual pattern of lects 1–9 can be matched against the idealized pattern in order to measure the actual pattern against the ideal model. In doing this we can provide an additional test of validity of the implicational pattern. This appears in Figure 6.

		y	ð	ǰ	θ	š	C#	č	z
Speaker	5	1/1	8/8	2/2	3/4	5/6	10/16	4/5	7/ 6
	1	1/1	8/8	2/2	3/4	5/6	16/16	2/3	13/14
	7	1/1	6/6	1/1	3/4	5/6	6/16	5/5	5/16
	9	1/1	8/8	2/2	4/4	5/6	11/16	3/5	11/16
	6	1/1	8/8	2/2	4/4	6/6	9/16	3/5	5/16
	4	1/1	8/8	2/2	4/4	6/6	15/16	3/5	9/26
	8	1/1	8/8	1/1	4/4	1/6	16/16	4/5	12/16
	3	1/1	8/8	2/2	4/4	6/6	16/16	4/5	4/16
	2	1/1	8/8	2/2	4/4	6/6	16/16	5/5	14/16

Figure 4a
Raw Data For Proportion of Standard To Total Variants,
Reading Context

Speaker		y	ð	j	θ	s	C #	c	z
	5	2	2	2	1	1	1	1	1
	1	2	2	2	1	1	(2)	1	1
	7	2	2	2	1	1	1	(2)	1
	9	2	2	2	2	1	1	1	1
	6	2	2	2	2	2	1	1	1
	4	2	2	2	2	2	1	1	1
	8	2	2	2	2	(1)	2	1	1
	3	2	2	2	2	2	2	1	1
	2	2	2	2	2	2	2	2	1

Figure 4b
where 1 = incomplete use of standard variant
2 = complete use of standard variant

	Lect	y	ð	ǰ	θ	š	C#	č	z
Interference State	1	1	1	1	1	1	1	1	1
Replacement State	2	x	1	1	1	1	1	1	1
	3	x	x	1	1	1	1	1	1
	4	x	x	x	1	1	1	1	1
	5	x	x	x	x	1	1	1	1
	6	x	x	x	x	x	1	1	1
	7	x	x	x	x	x	x	1	1
	8	x	x	x	x	x	x	x	1
	9	x	x	x	x	x	x	x	x
Acquisition Stage	10	2	x	x	x	x	x	x	x
	11	2	2	x	x	x	x	x	x
	12	2	2	2	x	x	x	x	x
	13	2	2	2	2	x	x	x	x
	14	2	2	2	2	2	x	x	x
	15	2	2	2	2	2	2	x	x
	16	2	2	2	2	2	2	2	x
	17	2	2	2	2	2	2	2	2

Figure 5
where 1 = interference variant only
x = variability, interreference and standard variants
2 = standard variant only

			y	ð	j	θ	š	C#	č	z
Interference Stage	Lect	1	1	1	1	1	1	1	1	1
Replacement Stage		2	x	1	1	1	1	1	1	1
		3	x	x	1	1	1	1	1	1
		4	x	x	x	1	1	1	1	1
		5	x	x	x	x	1	1	1	1
		6	x	x	x	x	x	1	1	1
		7	x	x	x	x	x	x	1	1
		8	x	x	x	x	x	x	x	1
		9	x	x	x	x	x	x	x	x
Acquisition Stage		10	2	x	x	x	x	x	x	x
	(7)	11	2	2	x	x	x	x	x	x
	1, 5	12	2	2	2	x	x	x	x	x
	9	13	2	2	2	2	x	x	x	x
	4, 6	14	2	2	2	2	2	x	x	x
	(8), 3	15	2	2	2	2	2	2	x	x
	2	16	2	2	2	2	2	2	2	x
		17	2	2	2	2	2	2	2	2
	(7)		2	2	x	x	x	x	2	x
	(8)		2	2	2	2	x	2	x	x

Figure 6

where 1 = interference variant only
x = variability, interference and standard variants
2 = standard variant only

In Figure 6 the lects containing deviations (lects 7 & 8, cf. Figure 3) are included in their approximate place on the idealized lect matrix (the lects with deviations are those in ( )'s) and are also listed below the actual matrix so that the actual deviations can be shown. For arrays such as that in Fig. 6 we can calculate, using the binomial theorem (cf. Siegal 1956), the likelihood of such an array as Fig. 6. Assuming equal probability for each of the three possible "events" in the array (1, X, 2), the probability for one informant to match one of the 17 patterns on the ideal lect matrix is .0025. Thus, given nine speakers, .023 person should match one ideal lect pattern by chance alone. Seven actually do, and the probability[8] of this occurring by chance alone is less than .001. Even if we calculate the bias in the data (i.e. do not assume equal probability for each event) so as to allow for the the apparent tendency for variability to be more common than total use of either interference variants or of target variants, the probability[9] of seven exact matches by chance alone is less than .001.

By both the coefficient of reproducibility and the matching of the actual lect pattern against an ideal pattern, it appears that the continuum of linguistic variables postulated above is a valid one.

It is almost certain that the situation is more complicated than presented here. Gatbonton-Segalowitz has shown that the acquisition of θ and ð proceeds in an implicational pattern through several phonetic environments. Thus, it is likely that each of these variables is a composite and that the acquisition of each segment may proceed through a stepwise pattern of phonetic environments. Edwards and Doviak (1976) have argued, for example, that the S – Z alternation is governed solely by phonetic environment. I see no reason that their analysis and this should be mutually exclusive.

Explanations for this continuum of acquisition-like forms are more difficult to obtain than demonstrations that it exists.[10] Since my purpose here is not to explain acquisition, but to argue that acquisition-like forms can have social interest, I will leave explanation for another occasion.[11]

3.0 Having now established a continuum of use of English consonants used by Spanish speakers, it may now prove fruitful to attempt to intregrate this consonant continuum with the vowel continuum previously established (Amastae 1978). Before doing this, I repeat here the vowel lect matrix for convenience in later reference, Figures 7a and b.

		o^{w}	ɔr	U	ɛ	I
Speaker	9	7/ 8	14/16	3/5	18/21	16/26
	8	8/ 8	14/15	3/5	19/21	22/23
	7	10/10	15/16	2/5	22/24	23/27
	6	10/10	12/13	5/5	18/21	17/21
	5	9/ 9	18/18	7/7	25/26	31/33
	4	11/11	13/13	8/8	20/21	22/23
	3	8/ 8	15/15	5/5	26/26	26/28
	2	20/23	28/28	8/8	35/35	45/59
	1	12/12	18/18	7/7	23/23	18/20

Figure 7a
Raw Data For Proportion of Standard Total Variants
All Context

		o^w	æ	U	ɛ	I
Speaker	9	1	1	1	1	1
	8	2	1	1	1	(2)
	7	2	1	1	1	1
	6	2	2	2	1	1
	5	2	2	2	2	1
	4	2	2	2	2	1
	3	2	2	2	2	1
	2	(1)	2	2	2	1
	1	2	2	2	2	1

Figure 7b
where 1 = variability, incomplete use of standard
2 = complete use of standard
coefficient of reproducibility = .958

Figure 8 gives the continuum including both vowels and consonants

		y	ð	ʲ	0^w	ɹ	U	ɛ	θ	ˀs	C#	ˀc	z	l
Speaker	9	2	2	2	2	1	1	1	1	1	1	②	1	1
	7	2	2	①	2	1	1	1	1	1	1	1	1	1
	1	2	2	2	2	2	2	2	1	1	1	1	1	1
	5	2	2	2	2	2	2	2	1	1	1	1	1	1
	6	2	2	2	2	2	2	①	2	2	1	1	1	1
	4	2	2	2	2	2	2	2	2	2	1	1	1	1
	8	2	2	2	2	①	①	①	2	①	2	1	1	②
	3	2	2	2	2	2	2	2	2	2	2	1	1	1
	2	2	2	①	2	2	2	2	2	2	2	2	1	1

Figure 8
where 1 = variation incomplete use of standard variants
2 = complete use of standard variant
coefficient of reproducibility = .932

The coefficient of reproducibility of the scale in Fig. 8 is slightly lower than for the separate vowel (Fig. 7) and consonant (Fig. 3) continuums but still well over the threshold of .90 needed for a valid scale. One half of the deviances come from one speaker, (8), while four of the speakers have at most one deviance, and the remaining four speakers follow the pattern exactly.

The splitting of I off from the rest of the vowels may be due not only to its extremely marked nature (cf. Amastae 1978), but perhaps also because the I — IY difficulty may be caused by the fact that English IY has no Spanish counterpart whatsoever, while EY, OY, etc. do. In any event, the final elements in the continuum are extremely well motivated also by informal yet consistent remarks in the community that these are the salient residual markers of Spanish influence upon English phonology.

3.1 In examining Figs. 7, 3, and 8 one other matter becomes apparent. This is the relationship of speakers to each other. On the vowel matrix, speaker 9 is farthest from standard English, while speaker 1 is the closest to standard English. On the consonant matrix speaker 7 is the farthest from the standard, 2 is the closest, while 1, 5, and 9 occur adjacently toward the non-standard end of the continuum. On the total matrix (Fig. 8) speaker 9 is the most deviant, while 2 again conforms most closely to the standard, and 1 is again toward the non-standard pole. Figure 9 recapitulates the three orders of speakers.

That speaker 1, the most deviant on the vowel matrix should show the least apparent rank stability is not surprising, since on the vowel matrix, (cf. Fig. 7) speaker 1 shows variability for all the vowel segments. Thus, the gross instability of speaker 1 with respect to the other speakers is only apparent, since the consonant and combined consonant-vowel orders are more accurate, (in their ranking of speakers not segments, since these remain substantially the same throughout), and these show substantially the same orders, not only for speaker 1 but for the others as well. In other respects also the variation in the three rankings of speakers is more apparent than real, since one speaker 1 is disregarded, at the standard end of the continuum we see speakers 4, 3, and 2 in each case.

Speaker	Vowels	Consonants	Totals
	9	7	9
	8	5	7
	7	1	1
	6	9	5
	5	6	6
	4	4	4
	3	8	8
	2	3	3
	1	2	2

Figure 9

No doubt some of the speaker ranking instability is due to the relatively small number of speakers considered here. E.G., some speakers, like 7, 9, 5, 1, or 6 change from one to three places in ranking on the vowel, consonant, or combined scales, but with more speakers, this one and two place variation would not seem obtrusive. In fact, it does not seem particularly serious even here, since in each case speakers 6–9 cluster toward the non-standard pole while 2–4 cluster at the standard pole.[12]

4.0 It is now time to return to the issues raised by this analysis of these data. There are several reasons to consider the English of Mexican-Americans a coherent linguistic variety, despite explicit claims

such as Sawyer's and implicit extension of analyses such as MHF's. Some of these reasons are 'para' linguistic and have to do with linguistic attitudes. Gatbonton-Segalowitz (1976) shows that the total acquisition/use of standard English variants by French-English bilinguals is strongly correlated with linguistic attitudes. Thus, those speakers who have well developed feelings of French nationalism show fewer of the standard variants than those who do not. Schumann (1978) shows that overall acquisition of English depends on the acquirer's feeling of closeness to or distance from the population of the target language. Amastae and Elías-Olivares (1977) show that Mexican-Americans from the same community as the nine speakers discussed above reveal a high solidarity factor for local Spanish usage (Spanish including many calques from English and other non-standard forms) and for code-switching as opposed to standard Northern Mexican Spanish. Ryan and Carranza (1975) show that Mexican-American bilinguals attach a high solidarity factor to "accented"English - i.e. English which displays a considerable number of non-target elements. I would project that Ryan and Carranza's results with "accented" English would be duplicated here. Thus, this language variety functions for its speakers in a manner similar to that shown by other varieties. It provides a linguistic expression of group membership and identity, which makes all the more doubtful the assumption by Sawyer and MHF that Mexican-American English and PRE should be examined solely in terms of those features known to be significant in the surrounding community.

Other reasons for considering this to be a variety concern the nature of the variation displayed and its analysis. Since MHF seem to require that patterned variation is a characteristic of a speech community, let us return to that aspect of these data. The variation exhibited most obviously by the data here is continuous variation across a continuum. The first question to be addressed is, "Can a continuum constitute a variety?" The answer must be yes, given previous analyses of other linguistic situations. Bickerton (1975) has demonstrated the existence of a morpho/syntactic continuum in Guyanese creole. Certainly the Guyanese continuum from creole basilect to standard acrolect reveals a sequence of use/acquisition of morpho/syntactic elements. No one, to my knowledge, has or would deny that the Guyanese con-

tinuum constitutes a linguistic variety with its own norms. If, then, by common consent the Guyanese continuum constitutes a community, then the continuum discussed here must also. Similarly, DeCamp (1971) has demonstrated a decreolizing continuum in Jamaica, which no one would deny constitutes a speech community.

There is, moreover, the matter of stylistic variation. Recall that while the data for the present study were elicited in stylistic contexts closely matching those used by MHF, the implicational continua of Figs. 3, 6, 7, and 8 are non-contextual. That is, the data are totals from all the elicitation contexts. But we can split up the contexts in order to examine the nature of contextual variation, if any. Again, rather than examining percentages of standard vs. non-standard variants, we will examine what each speaker does with respect to the continuum.

Let us begin here by contrasting performance in the reading part of the elicitation procedure with performance in the conversational part. For ease of reference here we will also split up vowels and consonants rather than using a combined lect matrix.

		ow	əɛ	ʊ	ɛ	ɪ
Speaker	9	7/8	11/13	3/5	13/17	8/17
	6	7/8	12/13	5/5	14/17	14/17
	8	8/8	12/13	3/5	15/17	16/17
	7	8/8	12/13	2/5	15/17	13/17
	5	8/8	13/13	5/5	16/17	15/17
	4	8/8	13/13	5/5	16/17	17/17
	3	8/8	13/13	5/5	17/17	16/17
	2	8/8	13/13	5/5	17/17	16/17
	1	8/8	13/13	5/5	17/17	8/ 8

Figure 10a
Raw Data For Proportions of Standard/Total Variants
Reading Context

Speaker		ɔʷ	æ	U	ɛ	I
	9	1	1	1	1	1
	6	1	1	(2)	1	1
	8	2	1	1	1	1
	7	2	1	1	1	1
	5	2	2	2	1	1
	4	2	2	2	1	(2)
	3	2	2	2	2	1
	2	2	2	2	2	1
	1	2	2	2	2	2

Figure 10b
Reading Context
where 1 = incomplete use of standard
2 = complete use of standard
coefficient of reproducibility = .96

		o^{w}	æ	ʊ	ɛ	ɪ
Speaker	2	12/15	15/15	3/3	18/18	32/39
	1	4/ 4	5/ 5	2/2	6/ 6	10/12
	9		3/ 3		4/ 4	8/ 9
	6	2/ 2		1/1	4/ 4	3/ 4
	4	3/ 3		3/3	4/ 4	5/ 6
	3		2/ 2		9/ 9	10/11
	8		2/ 2		4/ 4	6/ 6
	7	2/ 2	3/ 3		7/ 7	10/10
	5	1/ 1	5/ 5	2/2	9/ 9	16/16

Figure 11a
Raw Data For Proportions of Standard/Total Variants
Conversational Context

		o^{w}	æ	U	ɛ	I
Speaker	2	①	2	2	2	1
	1	2	2	2	2	1
	9	2			2	1
	6	2		2	2	1
	4	2		2	2	1
	3		2		2	1
	8		2		2	2
	7	2	2		2	2
	5	2	2	2	2	2

Figure 11b
Conversation Context
where 1 = incomplete use of standard
2 = complete use of standard

Figures 10 and 11 show lect matrices for vowels for the reading and conversation contexts. It is obvious that there is considerably more use of standard variants in the more casual context, more interference or non-standard variants in the reading (formal) context. Figures 12 and 4 (repeated here for convience) show the two contexts for consonants.

Speaker	y	ð	j	θ	š	C#	č	z
1	2	2	2	1	(2)	1		1
4				1		1		1
7	2	2		2		1		1
8	2	2		2		2		1
9		2	2					1
2	2	2	2	2	2	2	2	1
5	2	2	2	2				1
3		2	2			2		1
6		2	2	2	2			2

Figure 12 — Conversation Context
where 1 = incomplete use of standard
2 = complete use of standard

Speaker	y	ð	j	θ	š	C#	č	z
5	2	2	2	1	1	1	1	1
1	2	2	2	1	1	(2)	1	1
9	2	2	2	2	1	1	1	1
7	2	2	2	2	1	1	(2)	1
6	2	2	2	2	2	1	1	1
4	2	2	2	2	2	1	1	1
8	2	2	2	2	(1)	2	1	1
3	2	2	2	2	2	2	1	1
2	2	2	2	2	2	2	2	1

Figure 4 — Reading Context
where 1 = incomplete use of standard
2 = complete use of standard
coefficient of reproducibility = .96

Though a number of consonantal variables do not occur in the speech of every informant in the conversation context, the continuum appears unchanged.[13]

Evidently there is style shifting from context, but it is of a different type than that noted by Ma and Herasimchuk in Puerto Rican Spanish. It is also just the reverse of what MHF expected to find, with the greater standard usage occurring in the less formal context. Speakers seem to shift along the continuum in the manner proposed by DeCamp 1971. The variation is not in the quantitative use of variants according to context, but in the use of variables according to situation. The shifting may be highly constrained by learning factors, since all speakers may not command all of the continuum, but it is shifting nonetheless, since for different contexts speakers do seem to alter their output consistently. That speakers also change position with respect to each other indicates merely that individuals are affected differently by the requirements of contextual styles. Of course, this too may conceal the principle behind the variation. Scaling of this type has the certain advantage of revealing both the structure of that abstraction "the language" or the "speech community" and the position of the individual within it.

We may wonder, then, why this sort of variation shows up in this analysis, but fails to appear in the type of analysis used by MHF. The cause seems to be precisely the fact that many speakers do not control, or not use, (again, the distinction between limited and different competence is very difficult) all of the continuum, which prevents the clear style delineation sought by MHF. Since speakers may be at different stages in the acquisition process, the stylistic variation they exhibit is much more highly constrained than it is in other situations. But the style shifting is not absent, merely more subtle.

At this point, however, I cannot insist on the validity of this sort of stylistic shifting as STYLISTIC SHIFTING. The reason is the nature of the elicitation technique. Craddock (1973) has criticized the use of reading passages to elicit Spanish phonological data on the grounds that Spanish orthography too accurately represents a quasi-

formal phonological ou put, which may not actually be reflected in normal formal speech. Although that criticism would not necessarily apply to English, the written form may still have an effect. In both MHF (1971:415) and the data presented here there is clearly and consistently greater use of non-standard[14] items in the formal than in the casual. However, formal is equated with reading. If we take, for a moment, a point of view based solely on acquisition factors, it appears from this that an elicitation of English data from bilinguals may not be always reliably accomplished through a reading passage, since the act of reading may seem to require a return to use of non-standard forms not normally used by the speaker.[15] On the other hand, if this occurs consistently, it may be that reading passages should be used for just this reason, since we might thereby discern what variables are solidly acquired and consistently used as opposed to those which are perhaps less consistently used or less solidly controlled.[16] An additional fact, as yet uninvestigated, is the vargaries and complexities of English orthography. The important point here is that we be aware of exactly what possible effects various methods may cause.

4.1 An underlying thread in this paper has been that matters of language acquisition and matters of language communities are not mutually exclusive.[17] The equation of acquisition– like with non-social can be contradicted by consideration of several linguistic cases.[18] One of these cases is a pidgin language, which, to take one common definition, has no native speakers. That is, it is used in restricted circumstances for restricted purposes. In all likelihood, a pidgin would not show the sort of stylistic variation expected by MHF. But pidgins, as is now accepted, are coherent language varieties, following their own rules of use.

Similarly, a creole, as a possible result of pidgin, is unquestionably a coherent language variety.[19] A creole is also composed to some degree of stablized learners' forms. It may or may not show the type of stylistic variation exhibited in figures 1 and 2, depending on whether it is used in isolation, along side its "superstrate" language, in a continuum ranging from creole to post-creole, or in a diglossic or non-diglossic situation. Nevertheless a creole is unquestionably a unified language

variety, having clear norms of usage regardless of the variety of social situations mentioned above.

Additionally, in terms of language acquisition alone, it is well known that a wide variety of learner forms, whether due to interference/transference, or to developmental factors, may become fossilized in the usage of individual and/or groups (Richards 1972, Selinker 1972).

It is clear then, that any definition of speech community must be wide enough to encompass the situations mentioned here, including pidgin or creole speaking communities, and certain "learner" communities. But I am not only demonstrating that a definition must be fairly wide, but that our analytical techniques must allow us to see all interesting aspects of linguistic structure.

Some of the discussion may recall the recent debates over the "true" nature of linguistic variation (Labov 1969, Cedergren and Sankoff 1974, Sankoff 1975, Bickerton 1971, 1973, 1975, Bailey 1973.) I have no intention of entering those disputes here, particularly in view of Sankoff and Cedergren's (1979) claim that the two approaches to linguistic variation may not always have totally different ends. It is evident, however, that different types of speech communities may require different types of analytical techniques in order to expose both linguistically and socially interesting patterns.

A fundamental point to be made here is that a speech community is composed of people, not an assumed model of phonological variation.[20] It is precisely this which makes the issue of whether or not a group of speakers constitutes a "unitary speech community" in a language of bit of psuedo-issue, in the sense that whatever answer one arrives at does not depend on empirical justification, but on whatever definition of "unitary speech community" one assumes. Such a psuedo-issue can have very unfortunate consequences, nevertheless, if it leads to erroneous conclusion. We have examined some instances in which English of a group of speakers is dismissed as being of social interest because it shows evidence of acquisition-like phenomena, and/

or because it does not show evidence of assimilation to immediately contiguous community norms.

At this point the question of norms arises again. The bilinguals I have examined clearly do not exhibit the same sorts of norms that many other English speakers exhibit, since they appear to reverse the normal order of stylistic shifting. But their not matching totally (recall that their behavior with consonant clusters is similar to that of other English speakers) the norms of other English speakers does not mean they have no norms of their own. Thus, if a speech community is defined as a group of people who share a set of norms with regard to language, this group constitutes a speech community not only with regard to their bilingualness (e.g. their shared norms about when, where, how, with whom, etc., to use the two languages), but also with regard to English itself.

It is worth noting that these speakers differ from other speakers in at least two respects. One is that they appear to reverse the normal pattern of stylistic variation. The other has to do with an apparent rejection of local norms. As noted above, there are few or no differences between local monolingual and "general American" standard norms for the consonants. However, as is well known, there are rather severe differences between the local monolingual norms, which may be regarded as generally Southern, and the "general American" norms for the articulation of the vowels considered here. None of the bilinguals considered here showed the slightest inclination to adopt the local vowel norms. Nevertheless, the vowels behave with respect to stylistic shifting just like the consonants.

The linguistic definition of a speech community is, then at this point in our linguistic knowledge, an open issue, and often a non-empirical one (cf. Fishman 1972 for more discussion of the interrelationship between demographic and contextual variation). The only way to make it an empirical issue is to conduct detailed inquiries into what sorts of variation are always present, possible, or never present in language communities. In these terms the language of a community of speakers may be examined on its own terms for its own rules of

structure and use. From this point of view, the English of many Mexican-Americans in the Rio Grande Valley of South Texas[21] is clearly a legitimate language variety in both form and function, even though it may also be comprised of an acquisition sequence. In more general terms, the language of bilinguals who are suspected of not having total competence—whatever that is—may also have its own community norms.

FOOTNOTES

1 The activity which is the subject of this report was supported in whole or in part by the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred. The research reported here has been supported by an Advanced Institutional Development Grant OEG—O—74—2511 to Pan American University, which support is gratefully acknowledged. I thank Nick Sobin, Bob Wrinkle, and Judy McQuade for very helpful comments and discussion. I bear sole responsibility for any errors. A portion of the material in this paper was presented under the title, "The Acquisition of English consonants by Spanish Speakers" at the Mid-American Linguistics Conference, Columbia, Missouri, October 10—12, 1977. In its present form, the paper was presented at the American Dialect Society Meeting, Albuquerque, New Mexico, July 16—17, 1980.

2 These references are all to the Fishman, Cooper, and Ma study BILINGUALISM IN THE BARRIO. Several portions of this larger work which are relevant here were prepared variously by Fishman and Herasimchuk (hereafter HF) or Ma and Herasimchuk (hereafter MH). Since all the sections are part of a large, coordinated study and are presumably consonant, when referring to a general point of view rather than a specific statement I will refer to all these authors as MHF.

3 I take it that for Sawyer lack of structure means in an overall

community sense, not that the language of individuals is unstructured, although she clearly refers to the speech of some of her informants as being characterized by basic errors, and she evidently equates "errorful" speech with unstructured speech. Cf. Bills (1977) and Metcalf (1974) for contradictory views.

4 These are, of course, not all the consonantal differences between Spanish and English. There is additionally, for example, B—V which contrast in English, and B—P which are allophones. These are not included in the present study since they are not felt by many in this community to be as worthy of attention as those listed.

5 As noted above, consonant clusters were also investigated. Since Spanish has no final consonant clusters, Spanish speakers often simplify them. Clusters have, however, been omitted from the balance of this paper since they introduce several other problems. Some variables obviously occur less frequently than others in Figure 3a because it represents a speaker's total output for the session. However, even in the controlled reading portion the occurrences vary, most notably in the case of Y. Note, however, that this seems not to affect the reliability of the data since all speakers show the same consistency for this item.

6 The formula for the coefficient of reproducibility is 1 minus the number of deviations divided by the total number of responses. Thus, $1 - 2/72 = .972$. Another coefficient, the coefficient of scalability is slightly more stringent, but, in view of a third statistical test discussed below, it is dispensed with here.

7 To my knowledge Gatbonton-Segalowitz is the first to use this test of validity for Guttman scales in linguistics.

8 The formula is $\frac{N}{r} \cdot p^r \cdot (1-p)^{n-r}$; $9/7 \cdot .0025^7 \cdot (1-.0025)^{9-7}$ .001.

9 This is calculated by summing the products of the probabilities for each event in each row. Thus in theoretical lect 13, for example, in the first column, all the 9 speakers show 2, thus the probability for that event in that column is 1. In the second column also all speakers show 2, and the probability for that event in that column is also 1. In the third column 8 speakers show 2, so the probability of that event in that column is 8/9 = .88. The probabilities across the row are thus (1 · 1 · .88 · .66 · .55 · .1) = .116. The sum of the products of the rows is .360, which is the probability of one lect matching one of the ideal lect patterns by chance alone. The probability of five lects matching by chance alone is less than .001; $\underset{r}{N} \cdot p^r \cdot (1-p)^{n-r}$; $9/7 \cdot .36^7 \cdot (1-.36)^{9-7} = .001$.

10 This continuum is composed of data from speakers of a particular dialect of Spanish. It will take further investigation to determine whether this continuum is universal for Spanish speakers, or whether, for example, those who aspirate or delete S syllable finally have Z in the same place in the continuum as the speakers discussed here.

11 The linguistic reason for the ordering of these consonantal segments cannot constitute a major portion of this paper, since it is a subject in itself (of Amastae 1978) for an argument that universal markedness considerations explain the ordering among the vowel segments. However, we may give some indications here that the continuum is not merely an artifice in a linguistic sense as well as in a statistical sense. Markedness might seem to offer an explanation for the consonant continuum, but in the Chomsky-Halle version does not, since J for example, would be marked for backness, anteriority, and voicing, while Z is marked only for voicing. There is little independent evidence, however, that SPE marking conventions are correct in all respects. Other studies of language acquisition (Smith 1973, Ferguson and Farwell 1975, Burling 1959, Velton 1943) show that Z is universally acquired late. The other segments in the continuum also are known to be acquired late, but seem to be universally acquired earlier than Z. Function within the Spanish system maybe another factor, but not in any simple way, since this must be considered along with function in the

English phonological system. ð for example, which does not occur (allophonically) in Spanish, is acquired before θ, which does not occur in American Spanish. Final voiced stops enter a web of rather complicated processes which not only result in several allophones including unreleased and partially devoiced variants, and they also interact with other processes including vowel lengthening. Z's position at the end of the scale may be related to its position in a strength hierarchy (which is another way of viewing markedness) such as that proposed by Foley (1977), as well as the fact that its occurrence is so highly constrained in Spanish.

12 This does not seem to be too few speakers to posit a valid continuum, since (aside from the statistical tests) the matrix in Figure 8 shows a wide range, from one speaker who commands totally only four of thirteen segments, to one speaker who commands totally eleven of thirteen. Cf. sec. 4 below.

13 No coefficient of reproducibility is calculated for Fig. 11 since some cells are empty. If the empty cells are counted as deviances, the coefficient is of course well below .9 (Bickerton 1973, however, apparently accounts actual deviances only). Despite this, since all other scales presented here are well over the threshold, I feel confident that the lack of occurrence of some variables in the output of each context is not a serious problem.

14 MH refers to these as "interference" items, as I have on occasion. Since we have seen, however, that these items may serve a stylistic function, it is better to refer to them simply as non-standard. To term them "interference" is to put their analysis solely into the domain of language acquisition. What we have seen here is that they are interesting socially, as well.

15 Note, however, that even so the continuum of items remains unchanged.

16 In this we are approaching Mackey's (1962) desire to examine

'interference' just as we would any other variant to determine exactly how it functions. Haugen (1957), of course, observed some time ago that "interference" in the first generation may become the norm for later generations.

17 Fishman (1972: 22, 82–84) has discussed this subject in more detail, but his later discussion, though interesting, still has the effect of eliminating certain speech varieties from consideration thus obscuring interesting aspects of linguistic structure.

18 A work worth mentioning for not taking this view is Wolfram 1973, which deals expressly with the degree to which PRE variation matches the variation patterns in the surrounding community. However, this investigation is carried out under the assumption that whether the PRE variation matches that in the surrounding community or not, PRE must be examined on its own terms. Since Wolfram does not deal with styles, however, I cannot tell what he would say about the matters considered here.

19 This is not a universally accepted definition of pidgin-creole origins, but other definitions do not have adverse effects for the present discussion.

20 It is well known that in bilingual speech the two languages may function as style correlates in the same way that discernible styles function in monolingual speech.

21 I cannot, of course, say whether MHF's data from PRE would follow the pattern shown here. From the similarities between their data and this (lack of clear style breaks across the sample, more or less fixed usage of one sound by a speaker), I suspect that they would.

REFERENCES

Amastae, J. (1978a) The acquisition of English vowels. Papers in Linguistics 11. 3–4. 423–457.

. (1978b) Sociolinguistic background of Pan American University students. In Proceedings of the Seventh Southwest Areal Language and Linguistics Workshop, ed. by Anthony Lozano. Boulder, University of Colorado, 132–141.

. (1978ms) Language maintenance and language shift in the Lower Rio Grande Valley of South Texas. Presented at the World Congress of Sociology, Uppsala, Sweden. August, 1978. To appear in the Bilingual Review/La Revista Bilingue.

Amastae, J. and L. Elías-Olivares. (1978) Attitudes toward varieties of Spanish. In the Proceedings of the Fourth LACUS Forum 1977, ed. by Michel Paradis, Columbia, S.C.: Hornbean Press, 286–304.

Bickerton, D. (1971) Inherent variability and variable rules. Foundations of Language 74. 457–492.

. (1973) On the nature of a creole continuum. Language 49. 640–669.

. (1975) Dynamics of a creole system. Cambridge: CUP.

Bills, G. (1977) Vernacular Chicano English: Dialect or interference? Journal of the Linguistic Association of the Southwest II. 2 30–36.

Burling, R.N. (1959) Language development of a Garo and English speaking child. Word 15. 45–68.

Cedergreen, H. and D. Sankoff. (1974) Variable rules: performance as a statistical reflection of competence. Language 50. 333–355.

Craddock, J. (1973) Spanish in North America. Current trends in Linguistics, ed. by Thomas Sebeok. The Hague: Mouton.

DeCamp, D. (1971) Toward a generative analysis of a post-creole con-

tinuum, in Pidginization and creolization of language, ed. by D. Hymes. 349–370. Cambridge: CUP.

. (1973) What do implicational scales imply? In, New Ways of analyzing variation in English, ed. by C.–J. N. Bailey and R. W. Shuy. 141–148, Washington: GUP.

Edwards, A. and M. Doviak. (1976) Linguistic constraints on variation in Chicano English: Paper read at the annual meeting of the LSA, San Francisco.

Ferguson, C.A. and C.B. Farwell. (1975) Words and sounds in early language acquisition. Lg. 51. 419–439.

Fishman, J. (1972) The sociology of language. Rowley, Massachusetts: Newbury House.

Foley, J. (1977) Foundations of theoretical phonology. New York: Cambridge University Press.

Gatbonton-Segalowitz, E. (1975) Systematic variations in second language speech: a sociolinguistic study. McGill University Dissertation.

Haugen, E. (1957) Bilingualism in the Americas. Publication No. 26. American Dialect Society.

Herasimchuk, E. and J. Fishman. (1971) The multiple prediction of phonological variables in a bilingual speech community. In, Bilingualism in the barrio, ed. by J. Fishman, R.L. Cooper, and R. Ma, 465–482. Bloomington: IUP.

Labov, W. (1969) Contraction, deletion, and inherent variability of the English copula. Language 45. 717–762.

Linguametrics Group. (1978) Language Assessment Scales.

Ma, R. and E. Herasimchuk. (1971) The linguistic dimensions of a bilingual neighborhood. In Bilingualism in the barrio, ed. by J. Fishman, R.L. Cooper, R. Ma. et al. 349–479. Bloomington: IUP.

Mackey, W.F. (1962) The description of bilingualism. Canadian Journal of Linguistics 7. 57–85.

Metcalf, A. (1974) The study (or non-study) of California Chicano English. In Southwest Areal Linguistics, ed. by G.B. Bills, San Diego: San Diego State University.

Richards, J. (1973) Social factors, interlanguage, and language learning. Language Learning 22.2 155–188.

Ryan, E. and M. Carranza. (1975) Evaluative reactions of adolescents toward speakers of standard English and Mexican-American accented English. Journal of Personality and Social Psychology 31.50. 855–863.

Sankoff, D. and H.J. Cedergren. (1976) The dimensionality of grammatical variation. Language 52.1 163–178.

Sankoff, G. (1975) A quantitative paradigm for the study of communicative competence. Explorations in the ethnography of speaking, ed. by R. Bauman and J. Sherzer, 18–49. Cambridge: CUP.

Sawyer, J. (1970) Spanish-English bilingualism in San Antonio, Texas: a bilingual community. In Texas studies in bilingualism, ed. by G.G. Gilbert, 18–41. Berlin: Walter de Gruyter.

. (1973) Social aspects of bilingualism in San Antonio, Texas. Varieties of present day English, ed. by R. Bailey and J. Robinson, 226–232. New York: MacMillan.

Schumann, J. (1978) The pidginization process. Rowley, Mass.: Newbury House.

Selinker, L. (1972) Interlanguage. IRAL X.3. 219–231.

Siegal, S. (1956) Non-parametric statistics. New York: McGraw-Hill.

Smith, N. (1973) The acquisition of phonology. Cambridge: The University Press.

Stockwell, R.P., and D. Bowen. (1965) The sounds of English and Spanish. Chicago: University of Chicago Press.

Velten, H.V. (1943) The growth of phonemic and lexical patterns in infant language. Language 19. 281–292.

Wolfram, Walt. (1973) Sociolinguistic aspects of assimilation. Washington, D.C.: CAL.